IN THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A computerized method for determining an allocation of software and data components in a distributed system, the method comprising:

modeling a target system, the target system having a plurality of computing resources;

determining a set of couplings in the target system, said couplings including couplings selected from the group comprising: control couplings, data couplings and peripheral couplings;

prepartitioning the set of couplings to produce data and control partitions;

preallocating each coupling in the set of couplings to one of the plurality of computing resources;

interleaving the preallocated data and control ~~couplings~~ partitions;

defining a set of components according to the interleaved and preallocated ~~couplings~~ partitions, the components having a data and a code segment; [[and]]

determining a modularity of the set of components; and

determining a coupling strength for a coupling in the set of couplings.

2. (Original) The computerized method of claim 1, further comprising:

determining a computer hardware resource based on the determination of the modularity; and

interleaving the data and the code segment of each of the components.

3. (Original) The computerized method of claim 1, further comprising:

assigning each component of the set of components to a computer hardware resource based on the determination of the modularity; and

interleaving the data and the code segment of each of the components.

4. (Canceled)

5. (Currently Amended) The computerized method of claim [[4]] 1, wherein the coupling comprises a control coupling and the coupling strength is determined using ~~a value selected from the group comprising:~~ a task latency for a task in the control coupling, a timing strength, and a frequency strength.

6. (Currently amended) The computerized method of claim [[4]] 1, wherein the coupling comprises a data coupling and the coupling strength is determined using ~~a value selected from the group comprising:~~ a latency value, a timing strength, a frequency strength, and a bandwidth strength.

7. (Currently Amended) The computerized method of claim [[4]] 1, wherein the coupling comprises a peripheral coupling and the coupling strength is determined using ~~a value selected from the group comprising:~~ a latency value, a timing strength, and a frequency strength.

8. (Previously Presented) The computerized method of claim 1, further comprising:

calculating bottleneck ratios; and

ordering evaluations of couplings based on bottleneck ratios.

9. (Currently Amended) A computer-readable medium having computer executable instructions for performing a method for determining an allocation of software and data components in a distributed system, the method comprising:

modeling a target system, the target system having a plurality of computing resources;

determining a set of couplings in the target system, said couplings including couplings selected from the group comprising: control couplings, data couplings and peripheral couplings;

prepartitioning the set of couplings to produce data and control partitions;

preallocating each coupling in the set of couplings to one of the plurality of computing resources;

interleaving the preallocated data and control ~~couplings~~ partitions;

defining a set of components according to the interleaved and preallocated ~~couplings~~ data and control partitions, the components having a data and a code segment; [[and]]

determining a modularity of the set of components; and

determining a coupling strength for a coupling in the set of couplings.

10. (Previously Presented) The computer-readable medium of claim 9, wherein the method further comprises:

determining a computer hardware resource based on the determination of the modularity; and

interleaving the data and the code segment of each of the components.

11. (Previously Presented) The computer-readable medium of claim 9, wherein the method further comprises:

assigning each component of the set of components to a computer hardware resource based on the determination of the modularity; and

interleaving the data and the code segment of each of the components.

12. (Canceled)

13. (Currently Amended) The computer-readable medium of claim [[12]] 9, wherein the coupling comprises a control coupling and the coupling strength is determined using ~~a value selected from the group comprising:~~ a task latency for a task in the control coupling, a timing strength, and a frequency strength.

14. (Currently Amended) The computer-readable medium of claim [[12]] 9, wherein the coupling comprises a data coupling and the coupling strength is determined using ~~a value selected~~

~~from the group comprising:~~ a latency value, a timing strength, a frequency strength, and a bandwidth strength.

15. (Currently Amended) The computer-readable medium of claim [[12]] 9, wherein the coupling comprises a peripheral coupling and the coupling strength is determined using ~~a value selected from the group comprising:~~ a latency value, a timing strength, and a frequency strength.

16. (Previously Presented) The computer-readable medium of claim 9, wherein the method further comprises:

calculating bottleneck ratios; and

ordering evaluations of couplings based on bottleneck ratios.